UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,888	03/15/2005	Patrick Galili	FR 020096	5845

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EXAMINER
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ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
05/23/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _06 March 2008_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-11_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-11_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _03/15/2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed on 03/06/2008. Claims

1-11 are pending in this application and have been considered below.

Drawings

2.   Due to applicant's explanation by the amendment, the objections to figures are

withdrawn.

Response to Argument

3.   Applicant's arguments filed 03/06/2008 have been fully considered but they are

not persuasive. The examiner thoroughly reviewed Applicant's arguments but firmly

believes that the cited reference reasonably and properly meets the claimed limitation

as rejected.

   Applicant's arguments: "Wang does not disclose upper and lower initialization

   stakes and their role in the decoding. The reference to Wang in the Office action

   does not disclose an "upper stake" or a "lower stake"."

   The examiner's response: Wang discloses segmented sliding window for

   forward and backward recursion. Wang discloses initialization for the recursion

   operations wherein the current recursion is initialized with a state metric of the

   initial of a previous window of the same step (column 9 lines 7-28).

Applicants are reminded that the Examiner is entitled to give the broadest

reasonable interpretation to the language of the claim. The Examiner construed

the stake as the boundary of the window. The upper stake is the starting

boundary of the window and the lower stake is the end of the window (sub-block,

Figure 5). The Examiner is not limited to Applicant's definition, which is not

specifically set fourth in the claims. *In re Tanaka et al.*, 193 USPQ 139, (CCPA)

1977.

Claims 10-11 recite new limitation that is not disclosed in the original claim, a

new ground(s) of rejection is made in view of ***.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the
> invention by the applicant for patent; or (2) a patent granted on an application for patent by another filed in
> the United States before the invention by the applicant for patent, *except* that an international application
> filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of
> an application filed in the United States only if the international application designated the United States and
> was published under Article 21(2) of such treaty in the English.

5.   Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et

al. (Wang herein after) (US 7,200,799 B2).

Re Claims 1 and 4, Wang discloses a method and a decoder for decoding data, said method comprising iterations with some steps (SISO1, SISO2) (SISO decoder 1 **221**, SISO decoder 2 **222**, Figure 2B) using windows (WID) (segmented sliding window, column 7 line 35 – column 8 line 27) of input data, characterized in that the method comprises, for a current window (WID) of a step (SISO1, SISO2) within an iteration the steps of:

Performing a forward recursion (column 3 line 54 – column 4 line 13), wherein said forward recursion is initialized with a forward state metric vector (α) from a upper stake (STK) of a previous window of the same step (SISO1, SISO2) of a previous iteration (Figure 4, column 7 line 35 – column 8 line 27) (Figure 5, column 9 lines 7-27), a window (WID) comprising a lower and an upper stake (STK) (Figure 3, column 4 line 21 – column 5 line 24), and

Performing a backward recursion (column 3 line 54 – column 4 line 13), wherein said backward recursion is initialized with a backward state metric vector (β) from a lower stake (STK) of a next window of the same step (SISO1, SISO2) of a previous iteration (Figure 4, column 7 line 35 – column 8 line 27) (Figure 5, column 9 lines 7-27).

Re Claims 2 and 8, Wang discloses a method and its apparatus as claimed in claims 1 and 4, characterized in that the forward state metric vector (α) computed last is stored in an upper stake of said current window (WID) during the forward recursion (Figure 5, column 9 lines 7-27), and the backward state metric vector (β) computed last is stored in the lower stake (STK) of said current window (WID) during the backward

recursion (Figure 3, column 4 line 21 – column 5 line 24) (Figure 5, column 9 lines 7-

27).

Re Claims 3 and 9, Wang discloses a method and its apparatus as claimed in

claims 1 and 4, characterized in that all the windows (WID) of a step (SISO) are

processed in parallel (column 7 line 36 – column 9 line 6).

Re Claim 5, Wang discloses a receiver adapted to receive input data, said input

data being processed by the decoder as claimed in claim 4 (Figure 1).

Re Claim 6, Wang discloses a computer program product for a receiver,

comprising a set of instructions which, when loaded into said receiver, causes the

receiver to carry out the method as claimed in claims 1 to 3 (column 16 lines 16-54).

Re Claim 7, Wang discloses a computer program product for a computer,

comprising a set of instructions which, when loaded into said computer, causes the

computer to carry out the method as claimed in claims 1 to 3 (column 16 lines 16-54).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

8.   Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wang et al. (Wang herein after) (US 7,200,799 B2) in view of Change et al. (Change

herein after) (US 2003/0028838 A1).

Re Claims 10 and 11, Wang discloses a method and a decoder as claimed in

claims 1 and 4, except explicitly teaches initialization of the backward recursion by a

termination generator. However, Chang teaches a method and a system for turbo

decoding characterized in that the backward recursion is initialized with a metrics vector

computed by a termination generator, wherein the metric vector is a function of tail bits,

and is processed ([0094]).

Therefore, it would have been obvious to one skilled in the art at the time the

invention was made to utilize the end note state determination as taught by Change with

the decoder and its method of decoding as taught by Wang to further improve the

decoder accuracy and speed.

Conclusion

9.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KENNETH LAM whose telephone number is (571)270-

1862. The examiner can normally be reached on Mon - Thu 7:30 am - 5:00 pm EST

ALT Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KENNETH LAM/
Examiner, Art Unit 2611
05/14/2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611